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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,748	11/09/2001	Kenji Uchida	NEC-5084-US	5987

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EXAMINER
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NGO, CHUONG D

ART UNIT	PAPER NUMBER
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2193

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/986,748

Applicant(s)

UCHIDA, KENJI

Examiner

Chuong D. Ngo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 10-13 and 19-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-13 and 19-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-4,10-13,19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, last line, the recitation that “said extracted bits are accepted as representing the maximum values” is misdescriptive and thus is indefinite as to what it is intended to claim. According to the disclosure on page 14 of the specification which discloses an overflow in #2 , line 18, having a mantissa part being 0110 0000, and the corresponding overflow extracted bits should be 0100, and by a saturation process, line 28, the overflow values is represented by a maximum value of 0111. It is not the extracted bits being accepted as representing the maximum value as claimed. Claim 10 also has the same problem.

2. Claims 10-13 and 19-28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 10-13 and 19-28, the claims are directed to a computer related method of computation that produces a result merely a numerical value. In order for a claimed invention that is directed to such a computer implemented method to be statutory, the claimed invention must accomplish a practical application. That is the claimed invention must transform an article or physical object to a different state or thing, or produce a useful, concrete and tangible result. State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Also see “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility”, OG Notices: 22

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November 2005. It is clear from the claims that the method does not transform an article or physical object to a different state or thing. The input is a numerical value and the output is also a numerical value. Further, the claims are directed to a method of Viterbi decoding which is a mathematical algorithm that process numerical values and output numerical values. Since the claims fail to limit the method of Viterbi decoding to a practical application, the result produced by the method is not a real-world result, but mere numerical values without a practical application recited in the claims that make the result useful, concrete and tangible. Therefore, the claimed invention is directed to non-statutory subject matter as the claims fail to assert a practical application to the method.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa (JP 08-101919) in view of Blackham et al (5,619,198).

As per claims 1 and 2, Ozawa discloses in figure 1, a floating-point to fixed-point conversion having a reference data determining means (11) for detecting a maximum value as a reference, an exponent subtractor and shifting means (12), and a bit extracting means (output of 12) as claimed. It is noted that Ozawa does not disclose a correction of an overflow output by representing the output by a maximum value. However, Blackham et al discloses in figure 1, a correction means (30) for correcting an overflow output from a floating-point/fixed-point conversion by representing the overflow output by a maximum value as claimed. It would have been obvious to a person of ordinary skill in the art to provide Ozawa with an overflow correction means as taught by Blackham et al. in order to reduce errors caused by overflow.

As per claims 3 and 4, Ozawa does not disclose the detecting a minimum or an average value for the reference as claimed. However, it is clearly equivalent to choose the minimum or the average instead of the maximum for the reference in the conversion of Ozawa. A person of ordinary skill in the art would have found it an obvious modification from the teaching of Ozawa to detect a minimum or an average instead of the maximum for the reference as claimed.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa et al (5,359,548) in view of Blackham et al (5,619,198).

As per claims 1 and 2, Yoshizawa et al discloses in figure 13, a floating-point to fixed-point conversion having a reference data determining means (20-22)) for detecting a maximum value as a reference, an exponent subtractor means (23), shifting means (24), and a bit extracting means (output of 24) as claimed. It is noted that Yoshizawa et al does not disclose a correction of an overflow output by representing the output by a maximum value. However, Blackham et al discloses in figure 1, a correction means (30) for correcting an overflow output from a floating-point/fixed-point conversion by representing the overflow output by a maximum value as claimed. It would have been obvious to a person of ordinary skill in the art to provide Yoshizawa et al with an overflow correction means as taught by Blackham et al. in order to reduce errors caused by overflow.

As per claims 3 and 4, Yoshizawa et al does not disclose the detecting a minimum or an average value for the reference as claimed. However, it is clearly equivalent to choose the minimum or the average instead of the maximum for the reference in the conversion of Yoshizawa et al. A person of ordinary skill in the art would have found it an obvious

modification from the teaching of Yoshizawa et al to detect a minimum or an average instead of the maximum for the reference as claimed.

5. Applicant's arguments filed 05/23/2006 have been fully considered but they are not persuasive.

Regarding the rejection under 35 U.S.C. 112, second paragraph, it is no doubt that "0111" is the maximum value. However, the claims do not recite the maximum value being output as fix point data when overflow occurs. Instead the claims recite that "said extracted bits ( which is 0100 in the example on page 14 and corresponding the overflow in #2 , line 18) are accepted as representing the maximum values". This recitation is clearly misdescriptive since the disclosure has never disclosed that the extracted bits (0100) being accepted as representing the maximum value as claimed.

Regarding the rejection rejected under 35 U.S.C. 101, it is respectfully submitted that Viterbi decoding is a mathematical algorithm that process numerical values and output numerical values. Without limiting to a practical application, Viterbi decoding algorithm would not produce a useful and tangible real word result but mere numerical values, and thus is non statutory.

Regarding the rejection rejected under 35 U.S.C. 103, it is respectfully submitted that the reference are clearly related as they all directed to data format conversion. In addition, Blackham et al clearly discloses the a correction means (30) for correcting an overflow output from a floating-point/fixed-point conversion by representing the overflow output by a maximum value as that of the present invention (see col. 4, lines 23-26).

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6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong D. Ngo whose telephone number is (571) 272-3731. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Chuong D Ngo', with a long horizontal stroke extending to the right.

Chuong D Ngo  
Primary Examiner  
Art Unit 2193

08/18/2006